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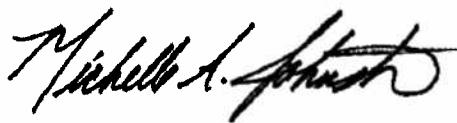
ANALYTICAL REPORT

Job Number: 280-7008-1

Job Description: Dalton PFC Analysis

For:
Dalton Utilities
1200 V.D. Parrott Jr. Parkway
Dalton, GA 30721

Attention: Ms. Dena Haverland



Approved for release.
Michelle Johnston
Project Manager I
9/16/2010 8:56 AM

Michelle Johnston
Project Manager I
michelle.johnston@testamericainc.com
09/16/2010

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is E87667.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

TestAmerica Laboratories, Inc.

TestAmerica Denver 4955 Yarrow Street, Arvada, CO 80002
Tel (303) 736-0100 Fax (303) 431-7171 www.testamericainc.com



Table of Contents

Cover Title Page	1
Data Summaries	4
Report Narrative	4
Manual Integration Summary	6
Sample Summary	12
Executive Summary	13
Method Summary	14
Method / Analyst Summary	15
Sample Datasheets	16
Surrogate Summary	18
QC Data Summary	19
Data Qualifiers	24
QC Association Summary	25
Lab Chronicle	26
Organic Sample Data	28
LCMS	28
Method PFC	28
Method PFC QC Summary	29
Method PFC Sample Data	38
Standards Data	50
Method PFC ICAL Data	50
Method PFC CCAL Data	115
Raw QC Data	140
Method PFC Blank Data	140
Method PFC LCS/LCSD Data	148
Method PFC MS/MSD Data	155

Table of Contents

Method PFC Run Logs	178
Method PFC Prep Data	180
Inorganic Sample Data	182
General Chemistry Data	182
Gen Chem Cover Page	183
Gen Chem MDL	184
Gen Chem Analysis Run Log	185
Gen Chem Raw Data	188
Gen Chem Prep Data	189
Shipping and Receiving Documents	197
Client Chain of Custody	198
Sample Receipt Checklist	199

CASE NARRATIVE
Client: Dalton Utilities
Project: PFC Analysis
Report Number: 280-7008-1



With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

The PFC method DV-LC-0012 is an isotope dilution method; therefore, the internal standards are added prior to the extraction process. This technique inherently corrects for variability in the extraction efficiency due to sample matrix. Dilution of samples beyond the ability of the instrument to detect the internal standards is not recommended. Analyses performed at a dilution level requiring additional internal standard to be added after the extraction step in order to quantitate results has been shown to yield results with a significant low bias. As a result, data have been reported that exceed the calibration range and are qualified as estimated.

The PFC method is an isotope dilution method where the internal standards are added prior to extraction and used to quantitate results; therefore, the use of dilution factors is inappropriate. Application of dilution factors would yield results that are artificially high. Reporting limits and method detection limits are not adjusted for dilutions unless samples are fortified with additional internal standard, which is not recommended.

Internal standard abundances may vary depending upon both recovery and the dilution at which the analysis is performed. This is an inherent feature of the isotope dilution technique and is not indicative of bias to the reported results.

Receipt

The following report contains the analytical results for one soil sample received at TestAmerica Denver on September 2, 2010, according to documented sample acceptance procedures. The sample was received in good condition at a temperature of 3.1°C. No anomalies were encountered during sample receipt.

PFC

Sample FINISHED COMPOST (280-7008-1) was analyzed for PFC in accordance with SOP DV-LC-0012. The sample was prepared on 09/08/2010 and analyzed on 09/14/2010.

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to high concentrations of target analytes, sample FINISHED COMPOST (280-7008-1) had to be analyzed at a 5X dilution. Internal standards (IS) were not fortified, therefore, the IS percent recoveries need to be multiplied by 5 and the MDLs/RRLs were not updated due to limitations in the software.

Perfluorobutanoic acid (PFBA) was detected in method blank MB 280-30481/4-A at a level less than one half the reporting limit; therefore, corrective action is deemed unnecessary. The value should be considered an estimate, and has been flagged "J". If the associated sample reported results above the MDL and/or RL, the results have been "B" flagged.

The MS/MSD analyses associated with prep batch 280-30481 was performed on sample FINISHED COMPOST (280-7008-1). The MS and/or MSD exhibited spike compound recoveries outside the control limits for several analytes. Please note the MS/MSD was analyzed at a 5X dilution, due to the high concentrations of target analytes. The presence of the '4' qualifier in the report indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

Internal standard responses were outside the control limits for sample FINISHED COMPOST (280-7008-1) and for the MS/MSD associated with analytical batch 280-31249. The sample shows evidence of matrix and target analyte interferences. This is an isotope dilution method and these samples were diluted 5X without fortifying the internal standards. This means the internal standards were also diluted and the recoveries could not be accurately calculated.

Refer to the QC report for details.

No other difficulties were encountered during the PFC analysis.

All other quality control parameters were within the acceptance limits.

Percent Solids

Sample FINISHED COMPOST (280-7008-1) was analyzed for percent solids in accordance with EPA SW846 3550C. The sample was analyzed on 09/10/2010.



No difficulties were encountered during the % solids analysis.

All quality control parameters were within the acceptance limits.

P9 143

LCMS - MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-7008-1

SDG No.:

Instrument ID: LC_LCMS

Analysis Batch Number: 30406

Lab Sample ID: STD0002 280-30406/1 IC

Client Sample ID:

Date Analyzed: 09/08/10 17:56

Lab File ID: pc50108041.d

COMPOUND NAME	RETENTION TIME	REASON	MANUAL INTEGRATION	ANALYST	DATE
Perfluorobutane Sulfonate (PFBS)	4.94	Baseline		Williamst.	09/09/10 08:11
Perfluorodecanoic acid (PFDA)	6.69	Baseline		Williamst.	09/09/10 08:20
Perfluoroundecanoic acid (PFUnA)	6.89	Baseline		Williamst.	09/09/10 08:20
Perfluorododecanoic acid (PFDoA)	7.06	Baseline		Williamst.	09/09/10 08:20
Perfluorotridecanoic Acid (PFTrIA)	7.23	Baseline		Williamst.	09/09/10 08:20

COMPOUND NAME	RETENTION TIME	REASON	MANUAL INTEGRATION	ANALYST	DATE
Perfluoropentanoic acid (PFPA)	4.85	Baseline		Williamst.	09/09/10 08:13
Lab Sample ID: ICV 280-30406/11					
Date Analyzed: 09/08/10 19:13					
Lab Sample ID: pc50108047.d					

COMPOUND NAME	RETENTION TIME	REASON	MANUAL INTEGRATION	ANALYST	DATE
Perfluoropentanoic acid (PFPA)	4.85	Baseline		Williamst.	09/09/10 08:13
Lab Sample ID: ICV 280-30406/11					
Date Analyzed: 09/08/10 20:04					
Lab File ID: pc50108051.d					

COMPOUND NAME	RETENTION TIME	REASON	MANUAL INTEGRATION	ANALYST	DATE
Perfluoropentanoic acid (PFPA)	4.85	Baseline		Williamst.	09/09/10 08:24
Perfluorobutane Sulfonate (PFBS)	4.98	Baseline		Williamst.	09/09/10 08:24
13C4 PFOS (IS)	6.45	Baseline		Williamst.	09/09/10 08:24

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-7008-1

SDG No. :

Instrument ID: LC_LCMS5 Analysis Batch Number: 31249

Lab Sample ID: 280-7008-1

Client Sample ID:

Date Analyzed: 09/14/10 09:37

COMPOUND NAME	RETENTION TIME	REASON	MANUAL INTEGRATION
			ANALYST DATE
13C5 PFNA (IS)	6.49	Baseline	Williamst 09/15/10 07:52
13C2 PFUnA (IS)	6.92	Baseline	Williamst 09/15/10 07:52
Perfluorotridecanoic Acid (PFTrIA)	7.25	Baseline	Williamst 09/15/10 07:52
Perfluorotetradecanoic acid (PFTeA)	7.37	Baseline	Williamst 09/15/10 07:52

Lab Sample ID: 280-7008-1 MS Client Sample ID:

Date Analyzed: 09/14/10 09:49 Lab File ID: pc50114095.d

COMPOUND NAME	RETENTION TIME	REASON	MANUAL INTEGRATION
			ANALYST DATE
13C4 PFOA (IS)	6.20	Baseline	Williamst 09/15/10 07:51
13C8 FOSA (IS)	7.20	Baseline	Williamst 09/15/10 07:51

Lab Sample ID: 280-7008-1 MSD Client Sample ID:

Date Analyzed: 09/14/10 10:02 Lab File ID: pc50114096.d

COMPOUND NAME	RETENTION TIME	REASON	MANUAL INTEGRATION
			ANALYST DATE
13C4 PFOA (IS)	6.20	Baseline	Williamst 09/15/10 07:50
13C5 PFNA (IS)	6.48	Baseline	Williamst 09/15/10 07:50
13C2 PFDA (IS)	6.72	Baseline	Williamst 09/15/10 07:50
13C2 PFDoA (IS)	7.10	Baseline	Williamst 09/15/10 07:50
Perfluorotetradecanoic acid (PFTeA)	7.38	Baseline	Williamst 09/15/10 07:50

3/3

LCMS MANUAL INTEGRATION SUMMARY

Lab Name:	testAmerica Denver	Job No.:	280-7008-1
SDG No.:		Analysis Batch Number:	31249
Instrument ID:	LC_LCMS5	Client Sample ID:	
Lab Sample ID:	CCV 280-31249/7	Lab File ID:	PC50114097.d
Date Analyzed:	09/14/10 20:51	GC Column:	Gemini-NX
ID:			

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluoroctane Sulfonamide (FOSA)	7.21 Baseline		Williamst	09/15/10 07:50

LCMS MANUAL INTEGRATION SUMMARY

Lab Name:	TestAmerica Denver	Job No.:	280-7008-1
SDG No.:			
Instrument ID:	LC_LCMS5	Analysis Batch Number:	30406
Lab Sample ID:	STD0002 280-30406/1 IC	Client Sample ID:	
Date Analyzed:	09/08/10 17:56	Lab File ID:	pc50108041.d
		GC Column:	Gemini-NX
		ID:	
COMPOUND NAME	RETENTION TIME	REASON	MANUAL INTEGRATION
			ANALYST DATE
Perfluorobutane Sulfonate (PFBS)	4.94	Baseline	williamst 09/09/10 08:11
Perfluorodecanoic acid (PFDA)	6.69	Baseline	williamst 09/09/10 08:20
Perfluoroundecanoic acid (PFUnA)	6.89	Baseline	williamst 09/09/10 08:20
Perfluorododecanoic acid (PFDoA)	7.06	Baseline	williamst 09/09/10 08:20
Perfluorotri-decanoic Acid (PFTriA)	7.23	Baseline	williamst 09/09/10 08:20
Lab Sample ID:	STD0200 280-30406/7 IC	Client Sample ID:	
Date Analyzed:	09/08/10 19:13	Lab File ID:	pc50108047.d
		GC Column:	Gemini-NX
		ID:	
COMPOUND NAME	RETENTION TIME	REASON	MANUAL INTEGRATION
			ANALYST DATE
Perfluoropentanoic acid (PPFA)	4.85	Baseline	williamst 09/09/10 08:13
Lab Sample ID:	ICV 280-30406/11	Client Sample ID:	
Date Analyzed:	09/08/10 20:04	Lab File ID:	pc50108051.d
		GC Column:	Gemini-NX
		ID:	
COMPOUND NAME	RETENTION TIME	REASON	MANUAL INTEGRATION
			ANALYST DATE
Perfluoropentanoic acid (PPFA)	4.85	Baseline	williamst 09/09/10 08:24
Perfluorobutane Sulfonate (PFBS)	4.98	Baseline	williamst 09/09/10 08:24
13C4 PFOS (IS)	6.45	Baseline	williamst 09/09/10 08:24

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-7008-1

SDG No.:

Instrument ID: LC_LCMS5

Analysis Batch Number: 31249

Lab Sample ID: 280-7008-1

Client Sample ID:

Date Analyzed: 09/14/10 09:37

Lab File ID: pc50114094.d

COMPOUND NAME	RETENTION TIME	REASON	MANUAL INTEGRATION
			ANALYST DATE
13C5 PFNA (IS)	6.49	Baseline	williamst 09/15/10 07:52
13C2 PFUnA (IS)	6.92	Baseline	williamst 09/15/10 07:52
Perfluorotridecanoic Acid (PFTria)	7.25	Baseline	williamst 09/15/10 07:52
Perfluorotetradecanoic acid (PFTeA)	7.37	Baseline	williamst 09/15/10 07:52

Lab Sample ID: 280-7008-1 MS

Client Sample ID:

Date Analyzed: 09/14/10 09:49

Lab File ID: pc50114095.d

COMPOUND NAME	RETENTION TIME	REASON	MANUAL INTEGRATION
			ANALYST DATE
13C4 PFOA (IS)	6.20	Baseline	williamst 09/15/10 07:51
13C8 FOSA (IS)	7.20	Baseline	williamst 09/15/10 07:51

Lab Sample ID: 280-7008-1 MSD

Client Sample ID:

Date Analyzed: 09/14/10 10:02

Lab File ID: pc50114096.d

COMPOUND NAME	RETENTION TIME	REASON	MANUAL INTEGRATION
			ANALYST DATE
13C4 PFOA (IS)	6.20	Baseline	williamst 09/15/10 07:50
13C5 PFNA (IS)	6.48	Baseline	williamst 09/15/10 07:50
13C2 PFDA (IS)	6.72	Baseline	williamst 09/15/10 07:50
13C2 PFDa (IS)	7.10	Baseline	williamst 09/15/10 07:50
Perfluorotetradecanoic acid (PFTeA)	7.38	Baseline	williamst 09/15/10 07:50

LCMS MANUAL INTEGRATION SUMMARY

Lab Name:	TestAmerica Denver	Job No.:	280-7008-1
SDG No.:			
Instrument ID:	LC_LCMS5	Analysis Batch Number:	31249
Lab Sample ID:	CCV 280-31249/7	Client Sample ID:	
Date Analyzed:	09/14/10 20:51	Lab File ID:	pc50114097.d
COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST
Perfluorooctane Sulfonamide (FOSA)	7.21 Baseline		williamst
			09/15/10 07:50

SAMPLE SUMMARY

Client: Dalton Utilities

Job Number: 280-7008-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-7008-1	FINISHED COMPOST	Solid	09/01/2010 1117	09/02/2010 0900

EXECUTIVE SUMMARY - Detections

Client: Dalton Utilities

Job Number: 280-7008-1

Lab Sample ID	Client Sample ID		Reporting Limit	Units	Method
Analyte		Result / Qualifier			
280-7008-1	FINISHED COMPOST				
Perfluorobutane Sulfonate (PFBS)	1200		3.1	ug/Kg	DV-LC-0012
Perfluorobutanoic acid (PFBA)	180	B	3.1	ug/Kg	DV-LC-0012
Perfluorodecanoic acid (PFDA)	390		3.1	ug/Kg	DV-LC-0012
Perfluorododecanoic acid (PFDoA)	120		7.7	ug/Kg	DV-LC-0012
Perfluoroheptanoic acid (PFHpA)	56		3.1	ug/Kg	DV-LC-0012
Perfluorohexane Sulfonate (PFHxS)	8.5		3.1	ug/Kg	DV-LC-0012
Perfluorohexanoic acid (PFHxA)	230		3.1	ug/Kg	DV-LC-0012
Perfluorononanoic acid (PFNA)	84		3.1	ug/Kg	DV-LC-0012
Perfluoroctane Sulfonamide (FOSA)	820		7.7	ug/Kg	DV-LC-0012
Perfluoroctanoic acid (PFOA)	350		7.7	ug/Kg	DV-LC-0012
Perfluoroctane Sulfonate (PFOS)	780		3.1	ug/Kg	DV-LC-0012
Perfluoropentanoic acid (PFPA)	94		3.1	ug/Kg	DV-LC-0012
Perfluorotetradecanoic acid (PFTeA)	21		7.7	ug/Kg	DV-LC-0012
Perfluorotridecanoic Acid (PFTriA)	110		7.7	ug/Kg	DV-LC-0012
Perfluoroundecanoic acid (PFUnA)	250		7.7	ug/Kg	DV-LC-0012
Percent Moisture	40		0.10	%	D-2216

METHOD SUMMARY

Client: Dalton Utilities

Job Number: 280-7008-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Perfluorinated Hydrocarbons Leaching procedure for PFCs	TAL DEN	TAL-DEN DV-LC-0012	
	TAL DEN		TAL-DEN PFC leach
ASTM D-2216	TAL DEN	ASTM D-2216	

Lab References:

TAL DEN = TestAmerica Denver

Method References:

ASTM = ASTM International

TAL-DEN = TestAmerica Laboratories, Denver, Facility Standard Operating Procedure.

METHOD / ANALYST SUMMARY

Client: Dalton Utilities

Job Number: 280-7008-1

Method	Analyst	Analyst ID
TAL-DEN DV-LC-0012	Williams, Teresa L	TLW
ASTM D-2216	Gheorghe, Philip A	PAG

Analytical Data

Client: Dalton Utilities

Job Number: 280-7008-1

Client Sample ID: FINISHED COMPOST

Lab Sample ID: 280-7008-1

Date Sampled: 09/01/2010 1117

Client Matrix: Solid

% Moisture: 39.7

Date Received: 09/02/2010 0900

DV-LC-0012 Perfluorinated Hydrocarbons

Method:	DV-LC-0012	Analysis Batch:	280-31249	Instrument ID:	LC_LCMS5
Preparation:	PFC leach	Prep Batch:	280-30481	Lab File ID:	pc50I14094.d
Dilution:	1.0			Initial Weight/Volume:	10.71 g
Date Analyzed:	09/14/2010 0937			Final Weight/Volume:	50 mL
Date Prepared:	09/08/2010 0950			Injection Volume:	25 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Perfluorobutane Sulfonate (PFBS)	1200			1.3	3.1
Perfluorobutanoic acid (PFBA)	180	B		0.53	3.1
Perfluorodecanoic acid (PFDA)	390			1.2	3.1
Perfluorododecanoic acid (PFDoA)	120			1.3	7.7
Perfluoroheptanoic acid (PFHpA)	56			1.1	3.1
Perfluorohexane Sulfonate (PFHxS)	8.5			1.2	3.1
Perfluorohexanoic acid (PFHxA)	230			0.31	3.1
Perfluorononanoic acid (PFNA)	84			0.77	3.1
Perfluoroctane Sulfonamide (FOSA)	820			1.9	7.7
Perfluoroctanoic acid (PFOA)	350			1.6	7.7
Perfluorooctane Sulfonate (PFOS)	780			0.58	3.1
Perfluoropentanoic acid (PFPA)	94			1.4	3.1
Perfluorotetradecanoic acid (PFTeA)	21			2.2	7.7
Perfluorotridecanoic Acid (PFTriA)	110			1.8	7.7
Perfluoroundecanoic acid (PFUnA)	250			2.8	7.7

Surrogate	%Rec	Qualifier	Acceptance Limits
13C8 PFOA	110		57 - 153
13C8 PFOS	110		70 - 130

Client: Dalton Utilities

Job Number: 280-7008-1

General ChemistryClient Sample ID: **FINISHED COMPOST**

Lab Sample ID: 280-7008-1

Client Matrix: Solid

Date Sampled: 09/01/2010 1117

Date Received: 09/02/2010 0900

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	40		%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-30941

Date Analyzed: 09/10/2010 1546

DryWt Corrected: N